



ÆQUAM SERVARE MENTEM

SASTRI COLLEGE

GRADE 8 : NATURAL SCIENCES

SEPTEMBER CONTROLLED TEST - 2018

TIME: 1 HOUR

MAX. MARKS: 60

EXAMINER: MISS S. GANGARAM

MODERATOR: MRS R.C. JIVAN

INSTRUCTIONS AND INFORMATION

NB: This paper consists of 2 sections typed on 5 pages.

1. Answer all the sections and all the questions.
2. **RULE OFF AFTER EACH QUESTION.**
3. Number the answers correctly according to the numbering system used in this question paper.
4. You are requested to follow the instructions of the questions or you will be penalized.
5. Write neatly and legibly.

SECTION A

QUESTION ONE

1.1. Various possible answers are provided for each question. Write only the letter corresponding to the correct answer next to the number.

1.1.1 When components in a circuit are connected in series, it means that...

- A] same current strength in all components
- B] current strength decreases the further it goes down
- C] current branches somewhere
- D] current in some components is greater

1.1.2. Shadows are formed because....

- A] all objects reflect light
- B] of opaque objects
- C] light travels at high speed
- D] objects allow light to pass through

1.1.3. An example of a non-luminous object is...

- A] Sun
- B] Moon
- C] Fire-fly
- D] Star

1.1.4. The filament in a light bulb is made up of...

- A] copper
- B] nichrome
- C] tungsten
- D] magnesium

1.1.5. The component in a circuit that opposes the flow of charge in a circuit is a...

- A] resistor
- B] ammeter
- C] cell
- D] switch

[5x1 = 5]

1.2. **Give the correct scientific term for each of the following descriptions.**

Write only the term next to the relevant question number.

- 1.2.1. A component which overheats, melts and breaks an electric circuit.
- 1.2.2. A component in an electric circuit that converts electrical energy into various forms of useful energy.
- 1.2.3. A device which changes electric energy into kinetic energy.
- 1.2.4. Consists of putting a layer of one metal on top of another with the use of electricity.
- 1.2.5. Metal containing iron that becomes magnetic when an electric current passes around it.

[5x1 = 5]

1.3 **Match a statement from Column A with the correct term from Column B.**

Write the question number and only the letter of your answer.

	COLUMN A	COLUMN B
1.3.1.	The build-up of electric charge.	A) Friction
1.3.2.	Process which causes electrons to be transferred from the surface of one object to another.	B) Attraction
1.3.3.	Pulling something towards itself.	C) Static Electricity
1.3.4.	Like charges are known to have this effect	D) Repulsion
1.3.5.	Caused when sparks heat the air around it rapidly causing a sound wave.	E) Lightning
		F) Thunder

[5x1 = 5]

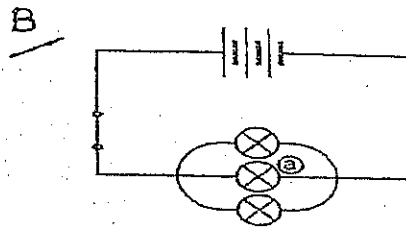
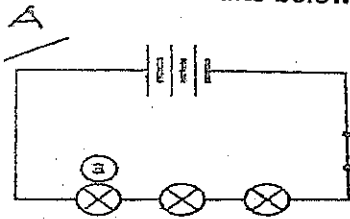
SUB-TOTAL QUESTION 1: [15]

TOTAL SECTION A: [15]

SECTION B

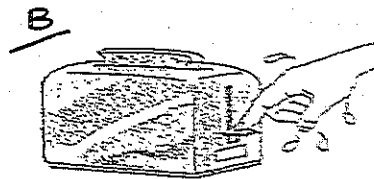
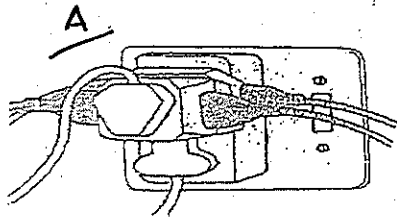
QUESTION TWO

2.1. Refer to the circuits below:



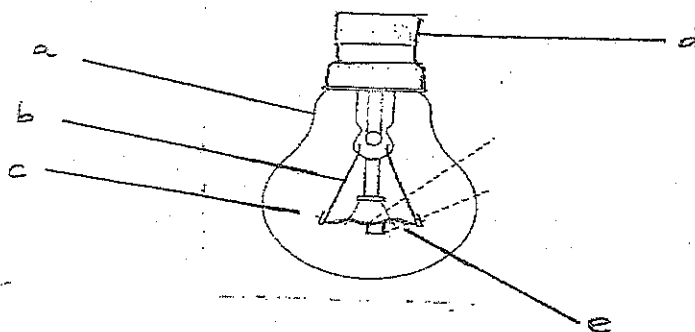
- 2.1.1. a) Which of the above circuits (A or B) represents a parallel circuit? (1)
- b) Give TWO reasons for your answer above. (2)
- 2.1.2. a) What would happen in circuit A if a light bulb burned out? (1)
- b) Give a reason for your answer above. (1)
- 2.1.3. In which circuit (A or B) will the bulbs be brighter? (1)
- 2.1.4. Draw a circuit diagram with the following components: TWO cells in series, THREE bulbs in parallel, ONE resistor in series and an open switch. (5)

2.2. Shown below are TWO unsafe practices regarding electricity.



- 2.2.1. Briefly explain what you could do to make each practice safe. (2)

2.3. Study the diagram below:

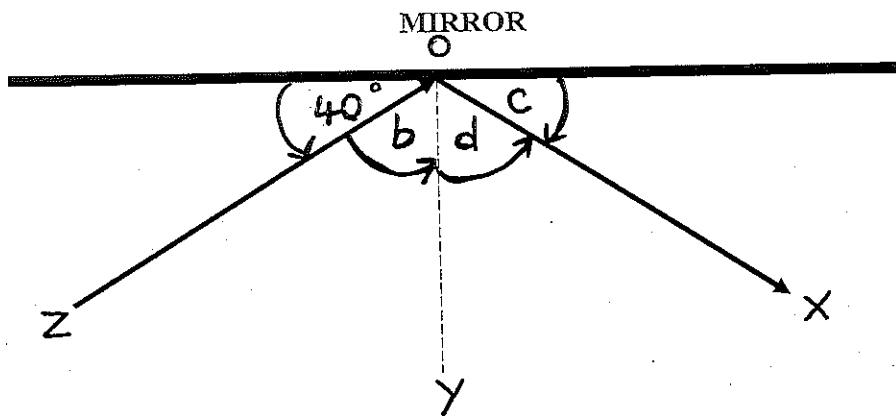


- 2.3.1. Provide labels for parts labeled a to e. (5)
- 2.3.2. Name the energy conversion taking place when the bulb is working. (2)

SUB-TOTAL QUESTION 2: [20]

QUESTION THREE

3.1. Study the diagram below and answer the questions that follow:



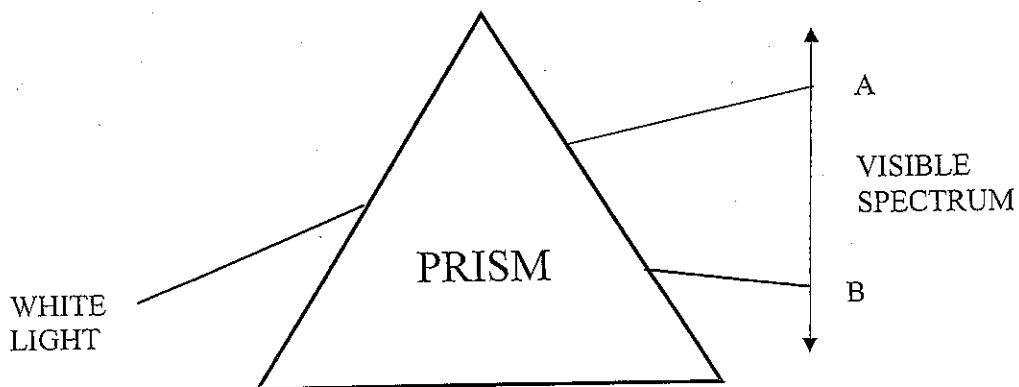
3.1.1. Supply labels for each of the following:

- a) OZ (1)
- b) OY (1)
- c) OX (1)
- d). angle b (1)
- e) angle d (1)

3.1.2. Determine the values of the following angles:

- a) d (6)
- b) b
- c) c

3.2. White light is being passed through the prism as shown below:



3.2.1. What phenomenon is being observed above? (1)

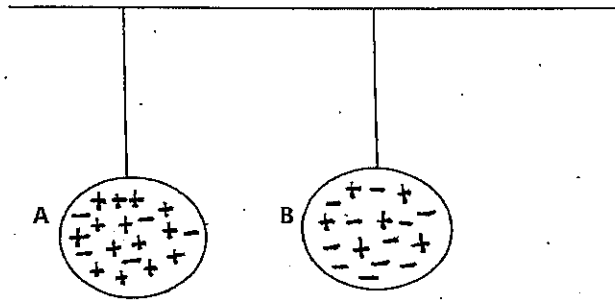
3.2.2. Write down the order of the colours from A to B. (2)

- 3.2.3. What do these colours represent? (1)
3.2.4. Which colour has the lowest frequency? (1)

SUB-TOTAL QUESTION 3: [16]

QUESTION FOUR

- 4.1. Two charged balloons are hanging from a ceiling. They are close to each other.



- 4.1.1. State the charge on A and give a reason for your answer. (2)
4.1.2. State the charge on B and give a reason for your answer. (2)
4.1.3. What would you observe between the two balloons? (2)
4.1.4. Briefly explain your answer above. (2)
4.1.5. Name the instrument used to detect the presence of charges. (1)

[9]

SUB-TOTAL QUESTION 4: [9]

TOTAL SECTION B: [45]

GRAND TOTAL: 60 MARKS

